After Sales Technical Documentation

THX–4 Series Transceiver

Chapter 2

PERFORMANCE SPECIFICATIONS

Original, 09/94

CHAPTER 2 – PERFORMANCE SPECIFICATIONS

CONTENTS

	Page No
Introduction	2–3
Product and Module List	2–3
Technical Specifications	2–6
General Specifications of THX–4 Series Transceiver	2–6
Electrical Specifications	2–6
Transceiver General Features	2–6
Receiver Branch	2–7
Transmitter Branch	2–8
Synthesizer’s RX Branch	2–8
Synthesizer’s TX Branch	2–8

Introduction

This chapter contains a list of products/modules together with their associated order codes, and details of the performance specifications for the THX–4 Series Transceiver. The performance specifications are split into general, transmitter, and receiver functions.

Product and Module List

Unit/type:	Product code:	Module code:
Transceiver THX–41X	0500073	
• system module KS3		0200321
• display module KL2		0200406
• mechanics MTHX41X		0260315
Transceiver THX–42X	0500076	
• system module KS3		0200321
• display module KL2		0200406
• mechanics MTHX42X		0260398
Transceiver THX–43X	0500079	
• system module KS3T		0200412
• display module KL3		0200407
• mechanics MTHX43X		0260395
Battery Pack BTH–6L (300 mAh)	0670069	
Battery Pack BTH–6S (380 mAh)	0670064	
Battery Pack BTH–6SM (550 mAh)	0670065	
Battery Pack BTH–6H (790 mAh)	0670066	
Battery Pack BTH–6HM (1100 mAh)	0670067	
Battery Pack BTH–8L (300 mAh)	0270126	
Battery Pack BTH–8S (380 mAh)	0670054P	
Battery Pack BTH–8SM (550 mAh)	0670055P	
Battery Pack BTH–8H (790 mAh)	0670056P	
Battery Pack BTH–8HM (1100 mAh)	0670057P	
AC Travel Charger ACH–3X	0675002	
AC Rapid Travel Charger ACH–4X	0675009	
AC Power Supply ACS–6X	0680019	
AC Travel Charger ACH–3E	0675001	
AC Rapid Travel Charger ACH–4E	0675008	
AC Power Supply ACS–6E	0680017	

Unit/type:	Product code:	Module code:
Cigarette Lighter Charger LCH–2	0675013	
• charging module AL4 (no spare parts available)		0200044
• mechanics MLCH2–2U (no spare parts available)		0260094
Desktop Charger CHH–6	0675041	
• charging module DC2H		0200296
• mechanics MCHH–6		0260337
Handsfree Desktop Charger CHH–7	0675040	
• DCXH1 module (comprising)		0200335
• module DC3H		0200334
• module DC4H		0200295
• mechanics MCHH–7		0260338
In–car Holder MBH–9	0630009	
• mechanics MMBH–9		0260339
• Installation kit KMKE–1		0260076
Anti–vibration Mount MKA–1	0945136	
Mounting Plate MKE–1	0650007	
• installation kit		0260076
Cable Clip CKH–1	0620016	
HF Junction Box HFJ–2	0694006	
• charging module BC4		0200045
• mechanics		0260065
Cable Junction Box JBH–1	0630008	
• mechanics		0260336
Compact Handsfree Unit PHF–2	0630010	
Mounting Kit for above Unit KPHF–1	0260254	
Compact Handsfree Unit Charger LCP–2	0680022	
Booster BSH–1	0082012	
• booster module BB3		0200100
• mechanics		0260109

Unit/type:	Product code:	Module code:
(Booster) Mounting Bracket MBM–3	0700016	
• mechanics		0260010
• installation kit		0260108
Power Cable PCH–4	0730009	
HF Microphone HFM–3	0690001	
HF Speaker HFS–6	0692006	
Front Mount Cable SCE–2	0730014	
Extension Cable SCE–3	0730015	
RF Extension Cable XRH–1	0730017	
Swivel Mount HHS–1	0650008	
In–car Data Cable FDP–1	0750009	
Analog PCMCIA Card DTP–3	0750037	
PCMCIA Data Cable DLH–2	0730043	
Teleadaptor FDM–2	0750019	
Fixed Antenna AMA–1	0660062	

Technical Specifications

General Specifications of THX–4 Series Transceiver

Temperature range	*–10° C to +55° C*
Operating time (with BTH–6/8SM)	
• talk time	*70 mins*
• standby time	*15 hrs*
Supply voltage	*5.25 V to 9.0 V (nominal 6.0 V)*
Nominal current consumption	
• standby mode	*35 mA*
• conversation mode	*425 mA*
Dimensions (h x w x d)	
• transceiver + BTH–6S/8S	*147 x 54 x 17.5 mm*
• transceiver + BTH–6H/8H	*147 x 54 x 23.4 mm*
Weight	
• transceiver + BTH–6S/8S	*200 g*
• transceiver + BTH–6H/8H	*345 g*

Electrical Specifications

Transceiver General Features

Number of channels	*1320 duplex operation*
Duplex spacing	*45 MHz*
Channel spacing	*25 kHz*
Frequency tolerance	*< ± 2.5 ppm*
Frequency control	*synthesized*
Voice modulation	*frequency modulation*
Compander	*2:1*
Data modulation	*Manchester–coded, 16 kbaud FSK*
Data speed	*8 kbits*
Word format	*BCH encoded*

Receiver Branch

Frequency band	*917.0125 to 949.9875 MHz*
Rx First Intermediate Frequency	45 MHz
Rx Second Intermediate Frequency	450 kHz
Sensitivity better than:	*<–110 dBm (20 dB SINAD)*
Adjacent channel selectivity	> 55 dB
Spurious response rejection	*> 55 dB*
Intermodulate rejection	*> 55 dB*
RSSI dynamic range	*> 60 dB*
RSSI starting level	*< 113 dBm*
Harmonic distortion better than:	*<–26 dB*
Blocking or desensitization at 1 MHz from receive frequency:	
• band A	*>–50 dBm*
• band B	*>–23 dBm*
Demod. aud. output level (2.3 kHz)	*50 mV nominal*
Demod. audio phase	*inverted*
Demodulation noise	*<– 32 dB*
Demod. audio frequency response	300Hz–3kHz with 6dB/ octave de–emphasis

Transmitter Branch

Frequency band	*872.0125 to 904.9875 MHz*
Number of channels	*1320 International (1240 UK)*
PA efficiency	>55%
Reference voltage for regulators	*4.8 V ± 0.2 V*
Output power at all channels	
• PL2	*28 dBm*
• PL3	*24 dBm*
• PL4	*20 dBm*
• PL5	*16 dBm*
• PL6	*12 dBm*
• PL7	*8 dBm*
	(tolerances +2 dB, –4 dB)
Modulation distortion	*< 5 %*
Modulation products:	
• outside ±17kHz	*< –26dBc*
±37.5kHz	< –45dBc
±50kHz	< –60 dBc
Residual modulation	*< –26 dB*
TX rise and fall times	*< 2 ms*
Wideband data	
• logic 0 corresponds to dev.	*+6.4 kHz (± 10 %)*
• logic 1 corresponds to dev.	*–6.4 kHz (± 10 %)*
Maximum deviation	*± 9.5 kHz*
Transmitter AF response	300Hz–3kHz with 6dB/ octave pre–emphasis

Synthesizer's RX Branch

Injection frequency range	*962.0125 to 994.9875 MHz*
Center channel tuning voltage	*2.5V ± 0.5 V*

Synthesizer's TX Branch

Injection frequency range	872.0125 to 904.9875 *MHz*
Output level to transmitter (at V4 output)	*0 dBm ± 2 dB*
Tuning voltage sensitivity	*15 – 20 MHz/V*
Center channel tuning voltage	*2.5V ± 0.5 V*